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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,470	08/13/2001	Patrick Louis-Rene Riffault	42390.P7141c	1163

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EXAMINER

CHAUHAN, ULKA J

ART UNIT	PAPER NUMBER
2676	10

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/929,470

Applicant(s)

RIFFAULT, PATRICK LOUIS-RENE

Examiner

Ulka J. Chauhan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-17 are pending.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) and U.S. Patent No. 6,070,211 to Neal et al.
4. As per claims 1-7, Applicant admits in paragraph [0005] that "prior 2X mode AGP graphics device normally includes input/output buffers for two address/data strobe signals (AD\_STB0 and AD\_STB1) and an input buffer for a sideband strobe signal (SB\_STB). An AGP bus that allows 4X mode operation provides compliments of the above strobe signals (AD\_STB0#, AD\_STB1#, and SB\_STB#) in addition to the above strobe signals. When the prior 2X mode AGP graphics device is installed on the AGP bus capable of 4X mode operation, the strobe compliment signals in prior systems are not connected at the prior 2X mode AGP graphics device. If an upgrade 4X mode AGP graphics device is installed on the 4X mode capable AGP bus in parallel with the prior 2X mode AGP device, a situation is created where the AD\_STB0, AD\_STB1, and SB\_STB signals have three capacitive loads (one at a memory controller, one at the prior 2X mode AGP graphics device, and one at the upgrade 4X mode AGP graphics device) and the AD\_STB0#, AD\_STB1#, and SB\_STB# signals have two capacitive loads (one at the memory controller and one at the upgrade 4X mode AGP graphics device). This

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difference in capacitive loading between the strobe signals and their compliments would have a negative impact on graphics bus timing relationships, and therefor a negative impact on system reliability.”

5. Neal teaches a system supporting differential signaling circuitry in which a bus comprises differential signal conductor pairs provided over a first line and a second line coupled to a termination network for terminating the first line and the second line [Abstract]. Neal discloses that employing balanced loads on the signal lines eliminates reflections resulting in single incident signaling, and includes a resistive load at the connection to differential signal line pairs [col. 6 lines 42-51]. Neal discloses that the value of the resistive load is selected to ensure that the loads seen by differential signal line pairs remains substantially balanced and that each set of resistive load for each differential signal may be located on the mother board, one set near the PCI host bridge and the other set at the opposite end of the PCI bus [col. 6 lines 57-64].

6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of APA and Neal such that the AD\_STB0#, AD\_STB1#, and SB\_STB# signals, having two capacitive loads when an upgrade 4X mode AGP graphics device is installed on the 4X mode capable AGP bus in parallel with the prior 2X mode AGP device, are terminated at a termination network comprising buffers similar to the buffers for AD\_STB0, AD\_STB1, and SB\_STB signals in the prior 2X mode AGP device, and that provide a balanced load so that reflections on the signal lines are eliminated resulting in single incident signaling.

7. As per claim 8, since APA [0005] discloses a situation where a prior 2X mode AGP graphics device is installed on the AGP bus capable of 4X mode operation and an upgrade 4X

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mode AGP graphics device is installed on the 4X mode capable AGP bus in parallel with the prior 2X mode AGP device. The remainder of claim 8 and claims 9-17 recite limitations similar in scope to claims 1-7, and therefore, claims 8-17 are rejected under the same rationale.

***Response to Arguments***

8. Applicant's arguments filed 10/24/03 have been fully considered but they are not persuasive. Applicant argues that Neal does not suggest or motivate modifying the disclosure to provide the load buffers. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, motivation to combine the teachings of APA and Neal is found in Neal. One of the objects of Neal's invention is to provide a balanced load bus [c. 2 ll. 27-29], and Neal teaches employing balanced loads on the signal lines to eliminate reflections resulting in single incident signaling, and includes a resistive load at the connection to differential signal line pairs [col. 6 lines 42-51]. Neal also discloses that the value of the resistive load is selected to ensure that the loads seen by differential signal line pairs remains substantially balanced and that each set of resistive load for each differential signal may be located on the mother board, one set near the PCI host bridge and the other set at the opposite end of the PCI bus [col. 6 lines 57-64]. Applicant admits that it was known that when an upgrade 4X mode AGP graphics device is installed on a 4X mode capable AGP bus in parallel

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with the prior 2X mode AGP device (having strobe compliment signals not connected), certain signals have different capacitive loads. Therefore, it is maintained that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of APA and Neal such that the AD\_STB0#, AD\_STB1#, and SB\_STB# signals, having two capacitive loads when an upgrade 4X mode AGP graphics device is installed on the 4X mode capable AGP bus in parallel with the prior 2X mode AGP device, are terminated at a termination network comprising buffers similar to the buffers for AD\_STB0, AD\_STB1, and SB\_STB signals in the prior 2X mode AGP device, and that provide a balanced load so that reflections on the signal lines are eliminated resulting in single incident signaling.

9. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ulka Chauhan** whose telephone number is **(703) 305-9651**. The examiner can normally be reached Mon.-Fri. from 9:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Matthew Bella**, can be reached at **(703) 308-6829**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-4700.



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Ulka J. Chauhan  
Primary Examiner  
Art Unit 2676

ujc  
December 23, 2003